

IN THE CLAIMS

1. (Currently Amended) A method of inducing an immune response in a fish against one or more pathogens which comprises:

transforming a bacterium with a eukaryotic expression vector comprising DNA of interest encoding at least one protein antigen for each of the pathogens;

killing the bacterium;

immersing the fish in a solution comprised of the transformed killed bacterium to effect the expression of the protein antigen by the fish to induce an immune response in the fish.

2. (Previously Presented) The method according to claim 1 wherein the fish is selected from the group of finfish.

3. (Previously Presented) The method according to claim 2 wherein the bacterium is selected from the group consisting of *E. coli* and *V. anguillarum*.

4. (Currently Amended) The method according to claim 3 wherein the DNA of interest is selected from the group consisting of *p57* gene from *Renibacterium salmoninarum*, ~~[[the]]~~ *empa* gene from *Vibrio anguillarum*, ~~[[the]]~~ *aspa* gene from *Aeromonas salmonicida*, ~~[[the]]~~ *omp48* and *omp38* genes from *Aeromonas veronii*, *omp38* genes from *Aeromonas veronii* and the genes coding for the G proteins from the Infectious Hematopoietic Necrosis Virus and genes coding for the G proteins the Viral Hemorrhagic Septicemia Virus.

5. (Currently Amended) The method according to claim 4 wherein ~~[[the]]~~ plasmid comprises a promoter of fish origin, a polyadenylation signal of fish origin and a kanamycin resistance cassette.

6. (Original) The method according to claim 1 wherein the bacterium comprises an avirulent strain of *V. anguillarum*, the strain characterized in that it is incapable of expressing a functional *mugA* protein.

7. (Previously Presented) A method of inducing an immune response in a fish against one or

more pathogens which comprises:

immersing the fish in a solution comprised of a live, attenuated strain of *V. anguillarum*, the strain characterized in that it is incapable of expressing a functional *mugA* protein, the strain having incorporated therein a plasmid comprising:

DNA of interest encoding at least one protein antigen for each of the pathogens, the method characterized in that the protein antigen is produced by the fish.

8. (Previously Presented) The method according to claim 7 wherein the fish is selected from the group of finfish.

9. (Currently Amended) A method of inducing an immune response in a fish against one or more pathogens which comprises:

immersing the fish in a solution comprised of a dead, attenuated strain of *V. anguillarum*, the strain characterized in that it is incapable of expressing a functional *mugA* protein, the strain having incorporated therein a plasmid comprising:

DNA of interest encoding at least one protein antigen for each of the pathogens, the method characterized in that the protein antigen is produced by the fish to induce an immune response in the fish.

10. ((Previously Presented) The method according to claim 9 wherein the fish is selected from the group of finfish.

11. (Currently Amended) A method for the delivery of DNA in a fish which comprises:

transforming a bacterium with a plasmid comprising DNA of interest encoding at least one protein; and

immersing the fish in a solution comprised of the dead, whole celled, bacterium to effect the production of the protein by the fish such that the DNA is delivered to the fish.

12. (Currently Amended) The method according to claim 11 wherein the DNA of interest is selected from the group consisting of [[of]] *p57* gene from *Renibacterium salmoninarum*, the *empa* gene from *Vibrio anguillarum*, the *aspa* gene from *Aeromonas salmonicida*, the *omp48* and *omp38*

genes from *Aeromonas veronii*, and the genes coding for the G proteins from the Infectious Hematopoietic Necrosis Virus and the Viral Hemorrhagic Septicemia Virus.

13. (Previously Presented) The method according to claim 12 wherein the fish is selected from the group consisting of finfish.

14. (Previously Presented) The method according to claim 13 wherein the bacterium is selected from the group consisting of *E. coli*, *Vibrio anguillarum*, *Aeromonas salmonicida*, wild-type *Vibrio* spp, *Yersinia ruckeri*, *Aeromonas veronii*, *Aeromonas hydrophila*, and *Edwardsiella ictaluri*.

15. (Previously Presented) The method according to claim 14 wherein the plasmid comprises a fish promoter, a polyadenylation signal of fish origin and a kanamycin resistance cassette.

16. (Previously Presented) The method according to claim 15 wherein the polyadenylation signal is wolfish AFP poly A.

17. (Previously Presented) The method according to claim 11 wherein the bacterium comprises an avirulent strain of *V. anguillarum*, the strain characterized in that it is incapable of expressing a functional *mugA* protein.